Epidemiology of atopic dermatitis and other allergic skin diseases in dogs and cats in Western Romania

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Abstract

Allergic skin diseases in dogs and cats are an emerging problem worldwide. In the past few years, the number of cases has greatly increased and a rising interest in their treatment and diagnosis exists among veterinarians. The aim of this study is to make a short description of the epidemiological situation of these skin problems in the western part of Romania. The study was conducted during a 3-year period in a total of 8 clinics from three different counties in western Romania: two clinics from the Mehedinti County, three clinics from Timis County and three clinics from Arad County. Reports were made regarding the number of patients, which were presented at the clinics and were diagnosed with atopic dermatitis, flea allergy dermatitis or other types of allergy (food allergy, contact allergy). This way we managed to obtain a preliminary ratio of allergic affections in dogs and cats in the western part of Romania. The average value for cats in all three counties was 10.74% of all cases presented at the clinics and 45.22% of the cases that presented dermatological symptoms. The average value for dogs in all three counties was 5.94% of all cases presented at the clinics and 42.49% of the cases that presented dermatological symptoms.

Keywords: *allergy, dogs, epidemiology, western Romania*

Introduction

Dogs, similar to humans, may develop a syndrome of spontaneous, inflammatory, pruritic dermatitis with characteristics such as a young age of onset, characteristic distribution of lesions and IgE sensitization to common environmental allergens generically called atopic dermatitis (AD)(9). The main clinical features are skin lesions distributed around the mouth, eyes, ears, limbs and ventral abdomen, pruritus and alopecia, erythema, conjunctivitis and recurrent otitis (8). The clinical signs of AD and of all allergies in general can sometimes easily be mistaken for diseases such as demodectic mange (6), *Malassezia* infections or skin diseases caused by *Microsporum.*

The diagnosis of canine AD is based either on the characteristic clinical features or on results from various tests such as intradermal skin testing, IgE serology and even blood tests (BDT or LTT tests) (5).

Epidemiological data help us understand the distribution, risk factors and causes of disease, having a major influence in establishing a successful control and prevention protocol (12). According to studies, AD and allergic skin diseases are one of the most common skin conditions in dogs and cats with a prevalence of 3-15% in the general dog population and 3-58% of dogs affected with skin diseases presented to veterinarians (8).

Materials and methods

The study was conducted over a three-year period (2014-2016) in a total of eight clinics from three counties in western Romania: Mehedinti, Timis and Arad. The clinics taken into study were as follows: *Vet Point Vest, Vetagrica* and *Bioanima* in Arad County, *Ilivet* and *Negrostar* in Mehedinti County and *Salvet, Dr. Ciolea Felician private practice* and the *Dermatology clinic of FVM* in Timisoara.

The information used in this paper comes from the consultation registers of the above-mentioned clinics. A total number of 13.254 dogs and 4.708 cats were registered in these three

years in the eight clinics. The overall number of animals with a dermatological diagnosis was 2971 of which 1852 were dogs and 1119 cats. Results in detail are illustrated in the graphics and tables that follow.

Table 1. Repartition of dogs presented in clinics from Timisoara, Arad and Mehedinti

Total cases of dogs (no.)			Total of dermatological cases (no.)			Total allergies (no.)		
Years			Years			Years		
2014	2015	2016	2014	2015	2016	2014	2015	2016
4098	4514	4642	582	634	636	229	289	269
General total= 13254			General total= 1852			General total= 787		

Table 2. Repartition of cats presented in clinics from Timisoara, Mehedinti and Arad

Total cases of cats (no.)			Total of dermatological cases (no.)			Total allergies (no.)		
Years			Years			Years		
2014	2015	2016	2014	2015	2016	2014	2015	2016
1461	1553	1694	339	397	383	143	178	185
General total= 4708			General total= 1119			General total= 506		

Table 3. Repartition of both cats and dogs in all three counties

Total cases (no.)			Total of dermatological cases (no.)			Total allergies (no.)		
2014	2015	2016	2014	2015	2016	2014	2015	2016
5559	6067	6336	921	1031	1019	372	467	254
General total= 17962			General total= 2971			General total= 1093		

In all three counties the highest rate of dermatological diseases in dogs and cats was recorded in 2015 when the rate was 16.99% of the total cases followed by 2014 with a rate of 16.57% and 2016 with a rate of 16.08% (figure 1).

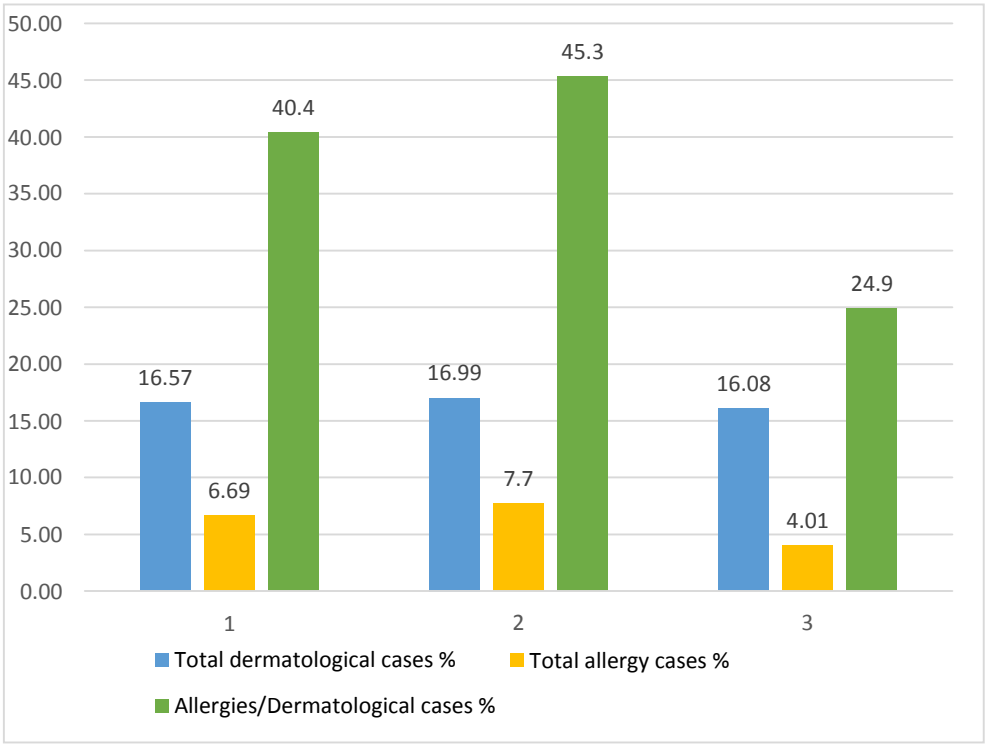

Fig.1- Percentage of dermatological cases and AD or other allergic cases

Allergies were present in a higher rate in the year 2015 when the percentage of AD and other allergic diseases was 7.70% of the total cases and 45.3% of the dermatological cases. Gradually followed the years 2014 with a rate of 6.69% of the total cases and 40.4 % of the dermatological cases and the year 2016 with a rate of 4.01% of the total respectively 24.9% of the dermatological cases.

The overall percent of allergic skin conditions including AD was 6.1% during the period 2014-2016 out of a total number of 17,962 animals.

According to earlier research, the prevalence of AD in the canine population was estimated at large to be 15% (1). More recently, scientific papers state estimates of 10 % (9). Unfortunately, the true prevalence and incidence of AD in the general dog population is very difficult to establish because of the slight unreliability of data caused mostly by the fact that mild cases are often successfully managed with symptomatic therapy without a specific diagnosis and some clinical manifestations of AD are difficult to recognize. Lund et al. (4) has conducted a study in the USA on 31,484 dogs examined in 52 private practices and reached an estimate of 8.7% dogs diagnosed with allergies. On the other hand, more recent studies also from the USA state a rate of 27% incidence of AD among dogs and cats (10). Canadian studies (11) stated that AD stood for 12.7% of the cases while in France, DeBoer's (2) survey reports a 27% rate of 11,373 dogs.

Conclusions

In the western part of Romania, the total prevalence of AD and other allergic skin diseases was highest in 2015 when the rate was 7.7%, AD or other allergic skin diseases representing 45.3% of dermatological cases.

The overall rate of allergic skin diseases in Western Romania during the years 2014-2016 was 6.1% out of 17.962 animals.

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